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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,960	06/15/2006	Yasushi Sugimoto	1204-46252X00	8873
20457 7590 04/10/2008 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
TSO, LAURA K				
ART UNIT		PAPER NUMBER		
2875				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/582,960

## Applicant(s)

SUGIMOTO ET AL.

## Examiner

Laura Tso

## Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 3 and 14-30 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-9, 11 and 13 is/are rejected.
- 7) ☒ Claim(s) 5, 10 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/15/06 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 9, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by the PCT Reference (WO 2004/079258). US Reference (2006/0171167) is a translation of the above PCT Reference.

PCT Reference discloses a backlight device [1] comprising a light source [10], a light guide plate [2] having an entry face [3], a lower face [7] and an upper face [4] and a reflector [8]. Reflective elements are V-shaped grooves formed on integral with the upper face of the light guide. A diffusion pattern is formed as an integrated body with the lower face of the light guide plate [0065]. Optical sheet [12] is disclosed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the PCT Reference (WO 2004/079258). US Reference (2006/0171167) is a translation of the above PCT Reference.

The PCT reference does not disclose the reflector has a metallic film disposed thereon. It is well known in the art to form a reflector by placing a metallic film thereon. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a reflector with metallic film disposed thereon as these types of reflectors work well.

The PCT reference does not disclose the material used to form the light guide plate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the light guide plate from any known material including

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polymethyl methacrylate or polyolefin resin, polycarbonate or a combination of these. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

The PCT reference does not disclose the distance between the upper face and lower face. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the distance between the upper face and lower face equal to 0.3-3.0 mm. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art

***Allowable Subject Matter***

Claims 5, 10 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 2, 3 and 14-30 are allowed.

Prior art fails to show or suggest a backlight device comprising a light source, a light guide plate having an entry face, a lower face and an upper face with reflective elements and a reflector, as claimed in claim 1, wherein:

1) The reflector has reflective grooves on the surface thereof that reflect light emitted from the lower face of the light guide plate to the light guide plate side [note claim 5].

2) The reflective elements are formed by disposing a plurality of V-shaped grooves on the upper face of the light guide plate, the reflective elements comprise a first face that is inclined toward the side of the light guide plate closest to the light source at an angle of  $\Theta_1 = .2\text{-}5$  degrees and a second face inclined toward the opposite side at an angle of  $\Theta_2$  which is not more than 90 degrees.

3) An anisotropic diffusion pattern is formed as an integrated body with the lower face of the light guide, the pattern is a surface relief hologram [note claim 12].

Prior art also fails to show or suggest a backlight device comprising a light source, a reflector, and a light guide plate having an entry face, a lower face perpendicular to the entry face that opposes the reflector and an upper face that opposes the lower face, wherein the luminance representing the luminance of light from the exit face of the backlight device reaches the maximum at angle  $\Theta$  max is A, the luminance B of light emitted from the light guide plate lower face fulfills the relationship  $B \geq 0.25A$  where  $\Theta$  is the output angle of light emitted from the upper face formed between the output light ray and the normal of the upper face.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura Tso whose telephone number is 571-272-2385. The examiner can normally be reached on M-F 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Laura Tso/  
Primary Examiner  
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